

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 99.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-019501**Date Inspected:** 18-Jan-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC) Chanxing Island**Location:** Shanghai, China**CWI Name:** Mr. Qui Wen**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Segment**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance Inspector (QA), Vibin Kumar Selvanayaham, was present during the times noted above for observations relative to the work being performed.

Bay 14

This QA Inspector observed the following work in progress:

Flux Core Arc Welding (FCAW) repair welding of weld joint SEG3020BB-055 located on Vertical Shear to Bottom Plate of OBG Segment 14W. ZPMC Welder is identified as 067949. ZPMC Quality Control (QC) is identified as Mr. Zhu Lin. The welding variables recorded by QC appeared to comply with the Applicable WPS-345-FCAW-2G (2F) – FCM – ESAB- Repair-1, which is used as per Critical Welding Repair (CWR) B-CWR-2752.

FCAW repair welding of weld joint SEG3020BB-064 located on Vertical Shear to Bottom Plate of OBG Segment 14W. ZPMC Welder is identified as 066695. ZPMC Quality Control (QC) is identified as Mr. Zhu Lin. The welding variables recorded by QC appeared to comply with the Applicable WPS-345-FCAW-2G (2F) – FCM – ESAB- Repair-1, which is used as per Welding Repair Report (WRR) B-WRR-20146.

Shielded Metal Arc Welding (SMAW) repair welding of weld joint SEG3020Y-022 located on Floor Beam to Longitudinal Diaphragm of OBG Segment 14W. ZPMC Welder is identified as 051348. ZPMC Quality Control (QC) is identified as Mr. Zhu Lin. The welding variables recorded by QC appeared to comply with the Applicable

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WPS-345-SMAW-3G (3F) – FCM – Repair-1, which is used as per Welding Repair Report (WRR) B-WRR-20152.

SMAW welding of weld joint SEG3020D-219 located on Floor Beam to Longitudinal Diaphragm of OBG Segment 14W. ZPMC Welder is identified as 037840. ZPMC Quality Control (QC) is identified as Mr. Zhu Lin. The welding variables recorded by QC appeared to comply with the Applicable WPS-B-P-2214-Tc-U4b-FCM-1.

SMAW welding of weld joint SEG3020F-066 and SEG3020H-143 located on Floor Beam to Floor Beam of OBG Segment 14W. ZPMC Welder is identified as 037840. ZPMC Quality Control (QC) is identified as Mr. Zhu Lin. The welding variables recorded by QC appeared to comply with the Applicable WPS-B-P-2211-Tc-U4b-FCM-1.

Flux Core Arc Welding (FCAW) welding of weld joint SEG3015B-005 and 006 located on Floor Beam to Deck Panel Diaphragm of the OBG Segment 13CW. ZPMC Welder is identified as 067275. ZPMC Quality Control (QC) is identified as Mr. Sun Tian Liang. The welding variables recorded by QC appeared to comply with the Applicable WPS- B-T-2232-ESAB.

FCAW welding of weld joint SEG3015F-007 and 008 located on Floor Beam to Deck Panel Diaphragm of the OBG Segment 13CW. ZPMC Welder is identified as 067275. ZPMC Quality Control (QC) is identified as Mr. Sun Tian Liang. The welding variables recorded by QC appeared to comply with the Applicable WPS- B-T-2232-ESAB.

Sub Merged Arc Welding (SAW) welding of weld joint SEG3014-006 located on Deck Panel to Deck Panel of OBG Segment 13BW. ZPMC Welder is identified as 250050. ZPMC Quality Control (QC) is identified as Mr. Zhang Lin. The welding variables recorded by QC appeared to comply with the Applicable WPS-B-T-2221-B-L2c-S-2.

Description of Incident: During the Quality Assurance random visual inspection of welds located on Segment 13CW at panel point 122.5 to 124, this Quality Assurance Inspector (QA) observed ZMPC personnel performing heat straightening on Floor beam to deck panel diaphragm weld, during this heat straightening at panel point 123 the Floor Beam Flange to Deck Panel Diaphragm Tack Welds are get cracks. It happens at pp122.5, pp123 and 123.4 counter weight side. This weld is a Complete Joint Penetration (CJP) weld joining the floor beam flange to deck panel diaphragm. The floor beam flange to deck panel diaphragm weld is identified as SPCM. This weld is designated as Seismic Performance Critical Member (SPCM). OBG segment 13CW is located West Side of Bay 14 area. The ZPMC QC is identified as Mr. Li Ming Yang. QA inform to ZPMC that prior to the repair welding, to prepare CWR and ensure with VT and MT all defect have been removed. See the attaché picture.

Unless otherwise noted, all work observed on this date appeared to be in general compliance with the applicable contract documents.

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### Summary of Conversations:

Only general conversation was held between QA and QC concerning this project.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact , who represents the Office of Structural Materials for your project.

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**Inspected By:** Kumar,Vibin

Quality Assurance Inspector

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**Reviewed By:** Patel,Hiranch

QA Reviewer